



## Modern Technology Makes the Root Canal Process Less Painful

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Root canal. Those two words are enough to make most people cringe. Root canals have the reputation as being long procedures, painful procedures and multiple procedures, said Dr. Alex Ghazal, an endodontist in The Villages.

But today, endodontists (root canal specialists) strive to make root canal procedures fast, painless and as easy on patients as possible. Modern technologies, including operating microscopes, digital X-rays and improved instruments, have gone a long way toward helping endodontists achieve those goals.

A root canal typically is needed when the pulp in the core of the tooth becomes diseased or infected, sometimes causing pain, swelling or sensitivity to hot or cold, and possibly leading to further infection.

During a root canal, the pulp is removed, then the channels are cleaned out, disinfected, shaped, filled in with a bio-compatible material and sealed.

For most patients undergoing a root canal, the procedure only takes one visit and can be done in less than an hour, Ghazal said, and patient comfort is always important. It's a painless procedure with the advances in technology. The advances have made it easier and quicker for the patient and the doctor, but more importantly (its) more predictable in the results, he said. Magnifying the issue

Probably the most important advancement aiding endodontists in root canal procedures is the operating microscope. The microscope magnifies and illuminates the root canal site, providing a much closer, more detailed look at the tiny canals on which endodontists work.

Before the operating microscope became available 10 or 15 years ago, endodontists had only the naked eye or loupe magnifiers to help them in their work.

According to endodontist Dr. John Whitt, of Village Endodontics, the microscope has made performing root canals and other procedures much easier. We do some pretty amazing things that, without a microscope, would be impossible, Whitt said. It allows us to do the work faster and more precisely. Being precise is important when each tiny root canal and every side canal must be located and cleaned to prevent further complications. Many older root canals have to be redone later, when they become reinfected because the previous procedure didn't get all the way to the bottom of the root, or if the tooth had an unusual anatomy, which can lead to missed canals.

With the microscope, Ghazal said it has become much easier to make sure every canal has been found and cleaned. The magnification improves the treatment tremendously, he said. We can find things, and we can clean things better than before. A digital look

When a dental procedure is needed, an X-ray of the area usually is necessary, and root canals are no exception. But instead of waiting several minutes for film X-rays to process, many endodontists have switched to digital versions.

Digital X-rays not only give endodontists a look at the inside of the tooth instantly, but they also expose patients to much less radiation than film X-rays. The patient is only exposed to about 10 percent of the radiation as with film (X-rays), Whitt said, adding that digital X-rays also are more environmentally friendly because they don't require any chemicals to process.

Ghazal said the instantaneous results and user-friendly aspects of digital X-rays make the procedure faster and easier on both the endodontist and the patient.

The X-rays are used to locate the tooth's root canals and guide the doctor. By using digital X-rays, an endodontist can enlarge the image on a computer screen for a closer look at a particular area, or the image can be manipulated for a better view of the tooth.

#### Better tools for better results

Even the tools endodontists use for their work have improved in recent years. Ghazal said the introduction of nickel titanium files has made it much easier to clean the inside of the tooth. The new instruments are smaller, which means the holes made in the tooth also are smaller, and the tools are very flexible. They give the root a nice shape, Ghazal said. Whitt agreed and added that with better instruments, procedures can be done much more expediently. All of these improved technologies result in a change in how people perceive a procedure that usually is dreaded. Now Ghazal said his patients are surprised at how quick and painless a root canal is. Every day patients (say), That was it? or they (say), That wasn't as bad as I thought, Ghazal said. With the advances available, patients don't have to fear a trip to the endodontist because he said procedures are faster, better and (have) more predictable results, better results.

For information about root canals or endodontics, visit the American Association of Endodontists Web site at [aae.org](http://aae.org).